

REMARKS

Claims 5, 8, 11 and 14 have been cancelled. Claims 6-7, 9-10, 12-13 and 15 remain pending in the application. Re-examination and reconsideration are respectfully requested.

In the office action, claims 5-7 and 11-15 were rejected as obvious over Cohen et al (U.S. 5,621,654) in view of the Laws publication. Further, dependent claims 8-10 were rejected as obvious over Cohen, Laws, and the Shumuta publication. Applicants respectfully traverse these rejections.

Applicants' independent Claim 6 recites a system for aiding the preparation of operation and maintenance plans for a power generation installation. The system claim is written in means plus function format and includes a "means for comparing between a cost of economical loss caused by a power generation efficiency reduction of the concerned power generation unit calculated from the determined deviation value and a cost relating to exchange of the machine and apparatus and the parts thereof in the concerned power generation unit".

As recognized in the office action, the primary Cohen reference does not teach such comparing means. As a result, the examiner relies on the Laws publication for allegedly meeting this claim limitation. However, as noted on Page 24, first column, fourth paragraph, in the "Gas Turbine Performance Module" section, Laws describes only (1) a calculation of efficiency or process values, (2) the determination of deviations between the calculated value and the current value, and (3) the monitoring of financial impact based on the deviation.

Applicant's invention, on the other hand, utilizes the cost relating to the exchange of the machine and apparatus and the parts thereof in the particular power generation unit. Neither Laws nor Cohen disclose, suggest or even hint at the use of a cost relating to the exchange of the machine and apparatus and the parts thereof. Accordingly, applicants respectfully submit claim 6 is patentable over Cohen in view Laws.

More specifically, nowhere do Cohen or Laws disclose any quantitative evaluation method of a financial impact. In contrast, applicants' invention is generally directed toward a specific method of evaluating the financial impact due to performance degradation of the machine, apparatus and parts thereof.

By way of example, for the first time, an economical loss amount (L1) which occurs until the next periodic inspection when the operation is continued without exchanging the machine and apparatus in the system, is calculated in accordance with a defined equation (equation 1) (see for examples paragraphs 72-88). By making use of the schedule information of the periodic inspection stored in the system database (see, for example, figure 10), the number of days from the present to the next periodic inspection is calculated and the loss amount is evaluated based on the performance degradation amount.

Subsequently an economical loss (L2), caused when the maintenance (exchange of the machine and apparatus) is performed, is calculated in accordance with a particular equation (see equation 2). The amount of the loss includes the cost required by the maintenance (exchange) and a loss of electric power sale opportunity due to the power generation stoppage.

For calculating the loss amount (L2), the purchase price of the exchanged machine and apparatus/part, consumed lifetime value, power generation amount per day, days required for installation work, and sales price of the electric power, etc., are stored in the machine and apparatus information database (see, for example, figure 11).

Accordingly, in order to determine the financial impact caused by the exchange of the machine and apparatus, a difference may be calculated between an amount of loss caused when the operation is continued under the degraded performance condition and an amount of loss that occurs when the plant is stopped and the machine and apparatus exchange maintenance is performed. With such a calculation, since the economic effect caused by the machine and apparatus exchange maintenance is quantitatively evaluated, it is possible to plan the maintenance schedule for the machine and apparatus exchange appropriately.

Hence, as recited in independent claim 6, applicants' system includes means for comparing between the cost of economic loss caused by a power generation efficiency reduction calculated from a determined deviation value and a cost relating to the exchange of the machine, apparatus and parts thereof in the power generation unit. Such a system is neither taught nor suggested by the combination of Cohen and Laws. Hence, applicants submit claim 6 is patentable over this cited prior art.

Similarly, applicants' independent claim 7 recites a system for aiding the preparation of operation and maintenance plans for a power generation installation. Hereto, the system includes means for calculating a cost of economical loss caused by a power generation efficiency reduction of the concerned power generation unit from a determined deviation value. Further, means are provided for comparing between the calculated cost of economical loss and a cost relating to exchange of the machine and apparatus and the parts thereof in the concerned power generation unit. Hence, as noted above with respect to claim 6, applicant's submit that claim 7 is also patentable over Cohen in view of Laws.

Finally, applicants independent method claim 15 includes the acts of calculating a cost of economical loss caused by a power generation efficiency reduction and comparing the calculated costs of economical loss and a cost relating to the exchange of the machine and apparatus and the parts thereof in the particular power generation unit. Hence, as noted above with respect to claims 6 and 7, applicants' respectfully submit method claim 15 is also patentable over Cohen in view of Laws.

In view of the above, applicants' submit independent claims 6, 7 and 15 are in condition for allowance. Further, dependent claims 9 and 12, and 10 and

13, depend from claims 6 and 7, respectively, and are also submitted to be in condition for allowance.

In particular, regarding dependent claims 12 and 13, manufacturer information and superiority ratings with regard to reliability and maintenance capacity of the manufacturers are stored in a database and utilized in preparing the operation and maintenance plan for each of the power generation units. When evaluating the machine, apparatus and parts thereof (for example, in order to realize a system in which information relating to manufacturers, i.e. brand names, is factored into account for operation and maintenance planning), it is necessary to express information such as reliability and maintenance capacity of the manufacturers in an electronic data form and to store such information in a database. In order to utilize such data for operation planning, a specific processing is required. As noted in applicants' dependent claims 12 and 13, the operation and maintenance plan is prepared in view of the superiority of the manufacturers stored in the database when evaluating the machine and apparatus or the parts thereof. By way of example, points could be allocated to the respective information and utilized in the planning. Such a system is not taught, suggested or even hinted at in the combination of Cohen, and Laws.

Indeed, contrary to the examiners assertion, Cohen merely describes storage of operational and performance characteristics in the cited passage (column 9, lines 8-25). Nowhere does Cohen teach the storage of manufacturer information, let alone superiority information regarding reliability and maintenance between different manufacturers. The examiners conclusion that "therefore, maintenance and operation plans can be arranged according to manufacturers brand name with a flag to show the quality and reliability assurance of individual brand preferences" is not suggested by Cohen, but rather is a pure hindsight reconstruction of applicants' invention based on applicants' teachings. As such, it is improper. Hence, applicants submit dependent claims 12 and 13 are separately patentable over the cited art.

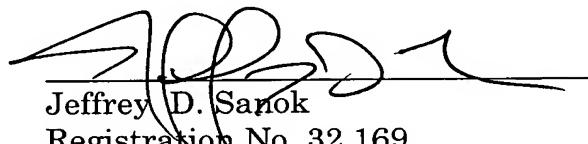
In view of the foregoing, applicants submit claims 6-7, 9-10, 12-13 and 15 are now in condition for allowance. An early notice to that affect is solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #056207.50393C2).

Respectfully submitted,

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